

The evolution of the microscopy classroom

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Microscopy, which is an important part of the education process for scientists, has been evolving over the years to allow the students to do more than simply observe an image.

Originally, the Microscopy Lab for students consisted of microscopes installed in a class room, in which the Lab instructor distributed a set of microscope slides relevant to the topic. The Instructor then had the students view the slides and search for the areas of interest. Although the students were gaining experience using the equipment, the teacher was not properly aware of whether each student was observing the appropriate area of interest.

The introduction of **Video technology** opened the door to allow the Teacher to share a live microscope image. The Teacher could connect his microscope to a video camera and the students could view the Teacher's image and work to match this image with their own microscope. **Digital Imaging technology** get the image out of the microscope so it could be analyzed and annotated. The common availability of PC's and laptops among students paved the way to have imaging stations in the Microscopy Lab so that the students could bring their samples to the imaging station to capture an image. Digital Imaging also provided a means for each student to have a camera with his microscope and connected to a controller so the Teacher could share the student's images to other student's workstations. This allowed the students images to become part of the coursework. **WiFi technology** provides an extreme level of interaction and sharing among the students and Instructor. The students are able to use their own mobile devices (Phones, Tablets, WiFi enabled PC) to view, capture, and annotate a live or saved image, then share it by email or other social networking methods. The use of WiFi microscopy cameras in the Microscopy Classroom also occupies the student's mobile devices with the coursework, thus reducing distractions and improving focus on the topic.

Over the history of teaching topics which require the study of Microstructures, the technology in the Microscopy Classroom has developed to create a Student Friendly environment which makes the work easier for the Student and the Instructor while making Microscopy exciting.

Keywords

Video technology; Digital Imaging technology; WiFi technology; Microstructures; Microscopy Classroom.